

Using technology for social interaction skills instruction for children and adolescents with Asperger's Syndrome

It is well known that Asperger's Syndrome is characterized by a qualitative impairment in social interactions (DSM IV-TR: APA 2000). However, the social competence of children and adolescents with Asperger's Syndrome is often misunderstood due to their average to above average intelligence, and intact or even precocious development of "surface" language skills (i.e., vocabulary skills, grammatical skills, speech sound skills, sentence length and structure). Thus, the seemingly advanced speaking style and cognitive functioning of children and adolescents with Asperger's Syndrome can often mask significant skill deficits in the area of social interactions (Myles, 2001). This article will explore key pieces for intervention, as well as the use of technology for the development of social interaction skills

in children and adolescents with Asperger's Syndrome.

Social development in Asperger's Syndrome

Social interaction skills that seem to develop by "osmosis" in neuro-typically developing people do not appear to follow the same pattern of development in children and adolescents with Asperger's Syndrome (Kowalski, 2002). Exposure to various social situations and experiences does not guarantee development of social interaction skills. They tend to be poor incidental social learners, due to poor social awareness, and appear to lack an innate ability to develop social interaction skills, despite being able to learn rote social skills for manners and social niceties. As a result of these rotely learned social skills, people often misinterpret their social cog-



BY SUSAN L. STOKES

In this issue, our featured columnist is Susan Stokes, M.A., CCC-SLP, Educational Autism Consultant, Fond du Lac, Wisconsin. Social interaction skills that seem to develop by "osmosis" in neuro-typically developing people do not appear to follow this same pattern of development in children and adolescents with Asperger's Syndrome (Kowalski, 2002). Join us as the author explores key pieces for intervention, as well as the use of technology, for the development of social interaction skills in children and adolescents with Asperger's Syndrome.

nition skills as also being intact and thus do not address difficulties in this area in an appropriate manner (i.e., consideration of skill development). In reality, the development of social cognition skills is a significant neurological impairment of children and adolescents with Asperger's Syndrome, requiring intensive programming and intervention. Numerous unusual or even challenging behaviors can present when a person with Asperger's Syndrome has not developed skills in this social area. It is important to keep in mind that just because a person with Asperg-

Address

526 Main St.
P.O. Box 68
Henderson, MN 56044

Phone

507-248-3294

Fax

507-248-3810

Web site

www.closingthegap.com

E-mail

info@closingthegap.com

This article originally appeared in the August/September 2007 issue of *Closing The Gap*, Vol. 26 No. 3.

Check us out on-line:

Copyright © Closing The Gap, Inc. All rights reserved.

www.closingthegap.com/

er's Syndrome can "tell you", doesn't necessarily mean that they can "do it". Children and adolescents with Asperger's Syndrome may rotely learn what is taught them, but may not have a foundation for how to use these skills, for what purpose, and in what contexts, due to significant difficulties with social cognition skills and generalization.

For example, an adolescent with Asperger's Syndrome frequently interrupts others. In response to this inappropriate social behavior, he was taught to say, "Excuse me." However, as he rotely learned this social manner, and did not have an understanding of the underlying social interaction skills necessary for interrupting others (e.g., social awareness, ability to read social cues of others, etc.), he thought "excuse me" was a "license to talk". He continued to interrupt others, but would preface the interruption with "excuse me."

In another example, a child with Asperger's Syndrome would sometimes curse. In response to this inappropriate social behavior, he was taught to say, "I'm sorry," following the production of a swear word, to apologize for his ill-mannered social behavior. However, as he rotely learned this social manner, and did not have an understanding of the underlying social cognition skills for apologizing (e.g., understanding the thoughts and feelings of others based on one's actions), he would routinely follow-up any swear word with "I'm sorry." Thus his behaviors were greatly misperceived as being purposeful and intentional, due to his ability to say, "I'm sorry" following swear words. Adults were frequently heard to say, "He knows just what he's doing because he always apologizes after cursing".

Social interactions with adults versus peers?

It is also important to note that children and adolescents with Asperger's Syndrome often appear to exhibit better social interaction skills with adults, or older children, versus same-age peers. This is sometimes confusing to the adults that are evaluating and providing social programming, and can often result in a misperception of actual social interaction skills of the person with Asperger's Syndrome. Adults or older children tend to be more accommodating and compensatory than same-age peers when interacting with children and ado-

lescents with Asperger's Syndrome. Allowances are often given for processing time, inappropriate non-verbal social communication behaviors such as personal space or eye gaze, and tolerance for a conversation on an uninteresting topic (e.g., Great Lakes maritime disasters). In addition, adults are often engaging in social interactions with children and adolescents with Asperger's Syndrome in less social and stimulating contexts (e.g., 1:1 settings), than what the child typically experiences with same-age peers (e.g., playground, cafeteria, passing periods, assemblies, football games, etc.).

Intervention

The greatest area of need for a person with Asperger's Syndrome is direct social interaction skills instruction. According to Myles (2003), little emphasis has been placed on assessing social skills and developing intervention and programming for children and adolescents with Asperger's Syndrome. Myles relates that this is possibly due to mandated academic standards / outcomes in schools, limited need for this type of instruction for neuro-typically developing students, as well as a general lack of understanding of the complexity of social skills and the devastating impact on current and future success and functioning. Social interaction skills are a huge predictor of a person's success later in life, much more so than cognitive functioning (Moyes, 2001). It is also important to understand that there is not a "quick fix" for the social interaction difficulties experienced by children and adolescents with Asperger's Syndrome. However, through good, long, hard work, given direct and appropriate instruction, successful and effective development of social interaction skills can occur in children and adolescents with Asperger's Syndrome.

Intervention: Understanding social relation differences

A successful intervention program for social interaction skills development should be based upon a foundation for understanding the social relation differences exhibited by children and adolescents with Asperger's Syndrome. Social interactions are an extremely complex process, and cross the domain of other skill areas, particularly the area of communication. The social relation / social communication

deficits that primarily impact children and adolescents with Asperger's Syndrome from engaging in successful social interactions are: social awareness; joint attention; social reciprocity; social rules / codes of conduct; social initiation / social entry; and social cognition / social understanding.

Intervention: Assessment

A thorough assessment of social interaction skills is a key piece for developing a successful intervention program. However, it is often overlooked due to limited evaluation tools specific to the social areas of need identified previously in children and adolescents with Asperger's Syndrome. It is important to consider that a good assessment will guide the intervention program by knowing exactly what skills need to be targeted for the child / adolescent with Asperger's Syndrome. Bellini (2006) and Baker (2003) are resources that provide rating forms, interview forms, and checklists for assessing the social functioning of children and adolescents with autism spectrum disorder.

Intervention: Individualized program

An effective social interaction skills program must be individualized for children and adolescents with Asperger's Syndrome. This is the primary reason why many of the generic or "canned" social relation skills programs are often not very effective, as they do not address the specific and individualized social interaction needs of our children and adolescents with Asperger's Syndrome. These programs tend to be too subtle, where the information has to be "pulled out," requiring abstract and gestalt processing. Instructional strategies that are geared towards the learning style of children and adolescents with Asperger's Syndrome must be considered, such as direct instruction, concrete information and strategies that are geared towards their visual processing channel.

Intervention: Use of technology

Why is technology a good mode of social interaction skills instruction for children and adolescents with Asperger's Syndrome? Because research has shown that people with ASD tend to process best when given information through their visual processing channel. Therefore, the use of technology appears to be a natural fit for social

relation skills instruction as it provides visual input for our learners with Asperger's Syndrome. Technology also allows for the use of numerous intervention tools and strategies, which can be used interactively, as no "one" strategy works for all, and no single intervention strategy will teach the child or adolescent with Asperger's Syndrome to be socially successful.

Low-tech strategies

Low-tech visual instructional strategies can be individually designed to teach social interaction skills. Low-tech strategies are defined as those strategies that do not involve any type of electronic or battery operated device – typically low cost, and easy to make and use. When implementing low-tech visual instructional strategies, it is important to consider the visual representation system used, to insure comprehension of the instructional strategy by the child / adolescent with Asperger's Syndrome. Visual representation systems, such as photographs, line drawings, and the written word, can easily be used with low tech instructional strategies for social interaction skills instruction, as long as the child / adolescent with Asperger's Syndrome can readily comprehend the visual system. The following low-tech instructional strategies have proven to be beneficial tools to teach any of the social interaction skills noted previously (please see the following Web address for photos of these strategies <<http://closingthegap.com/ctg2/solutions/StokesImages.lasso>>):

- **Social Narrative (Social Stories by Carol Gray):** A brief, individualized narrative written in first person about a specific social situation to give the child / adolescent with Asperger's Syndrome necessary information regarding the social nuances / rules of that particular context, as well as the perspective of other individuals involved. It is the repetitious reading of the narratives when the student is calm that leads to the success of this strategy. Social narratives can be represented by the written word, line drawings or photos, depending upon the visual comprehension of the student.

- **Cartooning (Comic Strip Conversations by Carol Gray):** Simple "stick-figure" drawings to visually clarify the elements of social interactions and emotional relations.

- **Social Scripts:** A visual script that depicts both the verbal and non-verbal ele-

ments of a specific social context. Social scripts are most successful as an instructional strategy when accompanied by role-playing.

- **Social Behavior Maps (by Michelle Garcia Winner):** A visual flow chart that teaches the abstract concepts regarding the specific relationship between behaviors, other's perspectives, other's actions (consequences), and the student's own emotions about those around him or her.

- **Power Cards (by Elise Gagnon):** This visual strategy capitalizes on the special interests that characterize children and adolescents with Asperger's Syndrome, to help change an unwanted or inappropriate behavior.

- **The Incredible 5-Point Scale (by Kari Dunn Buron):** A visual strategy that utilizes the concept of five-point scales to help students understand and control their emotional reactions by suggesting alternative positive behaviors at each level of the scale, to prevent escalating behaviors.

- **Social Rule Cards:** To visually define the social rules or codes of conduct for various social situations / contexts (e.g., "Rules for recess," "Rules for swearing," "Rules for asking questions in class," "Rules for interacting with girls").

- **Turn-taking Cards:** To visually represent and mark whose turn it is, whether for social activities or conversational speech.

- **Help Cards:** To visually teach the student the abstract social communication skills of spontaneously seeking help or assistance.

- **Greetings Cards:** To visually teach the student how to initiate social interactions with others, such as "Hi / Bye" or "High five."

High-tech strategies

High tech strategies can involve the use of both videotaping and computer software programs for teaching social interaction skills to children and adolescents with Asperger's Syndrome. One might question the validity of using the socially isolating strategy of watching videos or interacting with a computer to teach and encourage a child to engage in real-life social interactions. However, these modes of technology have proven highly effective for addressing the unique learning style of students with ASD. Videos and computer programs can be re-played repetitively, paused to allow

for analyzing and discussing, and they provide a constancy, which is a highly desired learning style for students with ASD, unlike real-life situations. Due to the speed and complexity in which social interactions occur, videos and software programs allow the child / adolescent with Asperger's Syndrome to process this intricate information according to their processing and learning needs, again, unlike real-life social situations.

- **Videotaping:** A highly motivating and attention-getting medium for many children and adolescents with Asperger's Syndrome. Recent research has shown that both video modeling (videos of others engaged in appropriate social interactions) and video self-modeling (children / adolescents are shown video clips of themselves performing desired social behaviors) are effective for teaching social interaction skills to children and adolescents with ASD (Bellini, 2007).

In addition to self-made videos, there are several commercially produced videos available, featuring video-modeling of real-life social situations (e.g., Storymovies by Carol Gray and Mark Shelly, and Fitting in and Having Fun – Volumes 1 and 2). Recorded television shows and movies can also be used as an instructional strategy to address social interaction skills in children and adolescents with Asperger's Syndrome. Short video clips of various social scenarios can be discussed and analyzed to target any social area of need.

- **Computer Software Programs:** Several examples of research-based interactive software programs that have proven effective in teaching social interaction skills in children and adolescents with ASD are Mind Reading, by Simon Baron-Cohen, et.al., for ages four through adult; and a series of six CDs produced by the Social Skill Builder Company (Jacobs and Jacobs), for preschool through high school age students. These interactive computer programs use real-life videos to teach social interaction skills. Mind Reading allows the user to study and explore over 400 emotions and to learn the meanings of facial expressions and tone of voice. There are over 2400 voices, faces, and mini-stories to provide social contexts to more readily allow for generalization of skills learned. The Social Skill Builder software series are highly interactive, allowing for the child / adolescent to watch video

scenarios, answer questions, make choices regarding appropriate social behavior, as well as providing opportunities for adult intervention by pausing and discussing information given.

Intervention: Peer sensitivity training

A final key piece of intervention for the child / adolescent with Asperger's Syndrome is educating the people that they have the most difficulty interacting with socially, their peers. There are guiding principles for providing this type of training, to share information in a positive manner, with or without disclosure of a specific diagnosis, with primary focus on the unique learning differences exhibited by children and adolescents with Asperger's Syndrome. The social interaction difficulties experienced by the student with Asperger's Syndrome can be shared, as well as strategies for peers to use when interacting with the student with Asperger's Syndrome. A few examples of commercially prepared resources specific to peer sensitivity training are the Sixth Sense II, by Carol Gray, and short videos produced by Coulter Video for elementary age and middle school / high school age peers.

Resources

American Psychiatric Association. (2000). Diagnostic and statistical manual of developmental disorders (4th ed. – Text revision). Washington, DC: Author.

Baker, J. (2001). The Social Skills Picture Book: Teaching Play, Emotion and Communication to Children with Autism. Future Horizons Publishing Company.

Baker, J. (2003). Social Skills Training for Children and Adolescents with Asperger's Syndrome and Social-Communication Problems. AAPC Publishing Company.

Baker, J. (2006). The Social Skills Picture Book for High School and Beyond. Future Horizons Publishing Company.

Baron-Cohen, S., et. al. (2007). Mind Reading. University of Cambridge.

Bellini, S. (2006). Building Social Relationships: A Systematic Approach to Teaching Social Interaction Skills to Children and Adolescents with Autism Spectrum Disorders and Other Social Difficulties, AAPC Publishing Company.

Bellini, S. (2007). Watching Videos can help Children with Autism Learn Social

Skills. Indiana University Media Relations, March 29, 2007. <http://newsinfo.iu.edu/news/page/normal/5254.html>

Coulter, D. (2005). Intricate Minds: Understanding Classmates with Asperger's Syndrome. www.coultervideo.com

Dana, T. Fitting in and Having Fun Volumes 1 and 2. TD Social Skills. www.tdsocialskills.com

Dunn-Buron, K. and Curtis, M. (2003). The Incredible 5-Point Scale. AAPC Publishing Company.

Gagnon, E. (2002) Power Cards, AAPC Publishing Company.

Gray, C. (1994) Comic Strip Conversations, Future Horizons Publishing Company. www.thegraycenter.org

Gray, C. (1995) The Original Social Story Book, Future Horizons Publishing Company. www.thegraycenter.org

Gray, C. (2002) The Sixth Sense II, Future Horizons Publishing Company. www.thegraycenter.org

Gray, C. and Shelley, M. (2005) Storymovies TM. The Gray Center for Social Learning and Understanding. www.thegraycenter.org

Jacobs, J. and Jacobs, L. (2001). Social Skill Builder Software Programs. www.socialskillbuilder.com

Kowalski, T.P., (2002). The Source for Asperger's Syndrome. Linguistics, Inc.

Moyes, R.A., (2001). Incorporating Social Goals in the Classroom: A guide for teachers and parents of children with high-functioning autism and Asperger's Syndrome. Jessica Kingsley Publishing Company.

Myles, B.S. and Simpson, R.L. (2001). Effective practices for students with Asperger's Syndrome. Focus on Exceptional Children, 43(3), 1-14.

Myles, B.S. (2003). In Social Skills Training for Children and Adolescents with Asperger's Syndrome, by Jed. E. Baker. Chapter 2: 9-15.

Myles, B. (2004). The Hidden Curriculum: Practical Solutions for Understanding Unstated Rules in Social Situations. AAPC Publishing Company.

Stokes, S.L. (2000). Autism: Interventions and Strategies for Success. A publication including six articles regarding autism spectrum disorder available at <http://www.specialed.us/autism/index2.htm>.

Winner, M. (2006). Think Social! A Social Thinking Curriculum. Michelle

Garcia Winner Publisher. www.socialthinking.com

About the author

Susan L. Stokes, M.A., CCC-SLP, is an Educational Autism Consultant, Fond du Lac, WI.